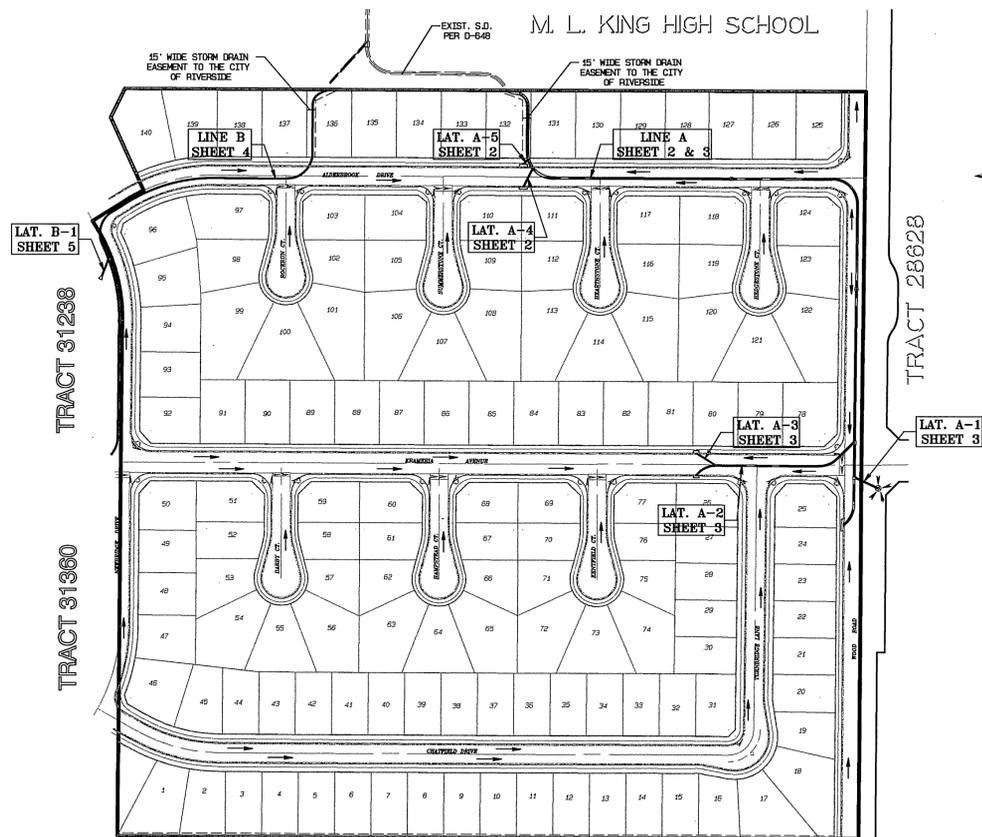
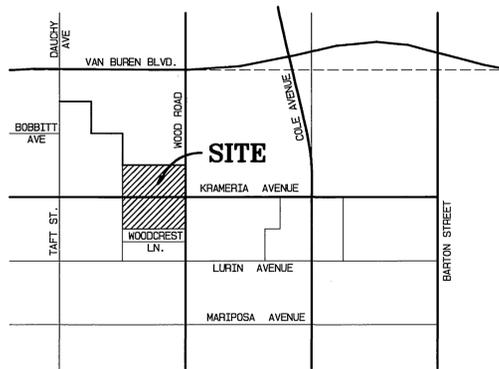


# TRACT 31237 STORM DRAIN IMPROVEMENT PLAN



INDEX MAP

SCALE: 1" = 150'



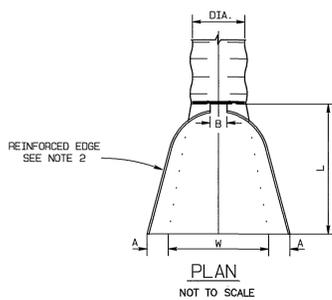
VICINITY MAP

NOT TO SCALE

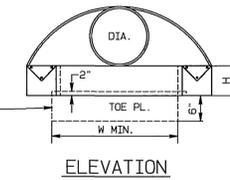


CATCH BASIN STENCILING DETAIL  
N.T.S.

- ④ STENCILS TO HAVE 2" LETTERS AS FOLLOWS:  
"NO DUMPING ONLY RAIN IN THE DRAIN"
- ⑤ PLACE BOTH STENCILS CENTERED WITHIN THE CATCH BASIN OPENING AND WITHIN THE TOP OF THE CURB.
- ⑥ SPRAY BOTH STENCILS WITH WHITE PAINT.
- ⑦ REMOVE STENCILS WHEN PAINT IS DRY.



PLAN  
NOT TO SCALE



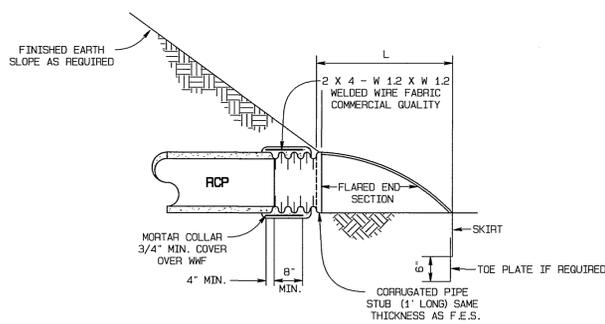
ELEVATION  
NOT TO SCALE

PIPE DIA.	END SECTION THICKNESS	DIMENSION-INCHES			
		A	B	H	L
24"	0.064"	10	13	6	41

EQUIVALENT PLASTIC F.E.S. TO MEET AASHTO M-294 AND ASTM D-1248 SPECIFICATIONS

NOTES

1. ALL 3-PIECE BODIES TO HAVE 0.109" THICK SIDES AND 0.138" THICK CENTER PANELS. WIDTH OF CENTER PANELS TO BE GREATER THAN 20% OF THE PIPE PERIPHERY. MULTIPLE PANEL BODIES TO HAVE LAP SEAMS WHICH ARE TO BE TIGHTLY JOINED BY RIVETS OR BOLTS.
2. REINFORCED EDGES TO BE SUPPLEMENTED WITH STIFFER ANGLES FOR THE 60" THRU 84" ROUND, 77" X 52" AND 83" X 57" PIPE-ARCH SIZES. THE ANGLES WILL BE 2" X 2" X 1/4" FOR THE 60" THRU 72" ROUND, 77" X 52" AND 83" X 57" PIPE-ARCH SIZES AND 2" X 2 1/2"
3. ANGLES REINFORCEMENT SHALL BE PLACED UNDER THE CENTER PANEL SEAMS ON THE 77" X 52" AND 83" X 57" PIPE-ARCH SIZES.
4. TOE PLATE TO BE AVAILABLE AS AN ACCESSORY WHEN SPECIFIED.
5. END OF PIPE TO BE FINISHED WITH ANNUAL CORRUGATIONS TO CONFORM FLARED END SECTION SO THAT MINIMAL LEAKAGE RESULTS FROM THE CONNECTION. OTHER DESIGNS MAY BE USED WITH APPROVAL OF THE ENGINEER.
6. FOR 12" THRU 24" HELICAL END SECTION CONNECTION, A UNIVERSAL COUPLING BAND ATTACHED TO THE METAL END SECTION BY RIVETS, BOLTS OR ONE INCH LONG SHOP TACK WELDS SPACED AT SAME INTERVALS AS DIMPLES MAY BE USED IN PLACE OF THE 112" STUB SEE CALTRANS STANDARD PLAN D97C.



TYPICAL CROSS SECTION  
NOT TO SCALE

FLARED END SECTION CONNECTION TO RCP

NOT TO SCALE

CONSTRUCTION NOTES

- ① CONSTRUCT 18" RCP (D-2000) 84 LF
- ② CONSTRUCT 24" RCP (D-2000) 1045 LF
- ③ CONSTRUCT 30" RCP (D-1500) 256 LF
- ④ CONSTRUCT 36" RCP (D-1500) 1161 LF
- ⑤ CONSTRUCT 48" RCP (D-1500) 181 EA
- ⑥ CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. DWG. NO. 405 5 EA
- ⑦ CONSTRUCT JUNCTION STRUCTURE C PER CITY OF RIVERSIDE STD. DWG. NO. 422 2 EA
- ⑧ CONSTRUCT JUNCTION STRUCTURE NO. 4 PER CITY OF RIVERSIDE STD. DWG. NO. 423 2 EA
- ⑨ CONSTRUCT MANHOLE AX PER CITY OF RIVERSIDE STD. DWG. NO. 430 3 EA
- ⑩ CONSTRUCT MANHOLE EZ PER CITY OF RIVERSIDE STD. DWG. NO. 431 5 EA
- ⑪ CONSTRUCT MANHOLE JM PER CITY OF RIVERSIDE STD. DWG. NO. 432 1 EA
- ⑫ CONSTRUCT CONCRETE COLLAR PER CITY OF RIVERSIDE STD. DWG. NO. 424 5 EA
- ⑬ TRENCH BACKFILL PER CITY OF RIV. STD. 453 & PIPE BEDDING PER CITY STD. 452
- ⑭ CONSTRUCT METAL FLARED END SECTION PER DETAIL ON SHEET 1 1 EA
- ⑮ CONSTRUCT SECURITY GATE PER DETAIL ON SHEET 5 2 EA
- ⑯ CONSTRUCT 2' DEEP GROUTED LIGHT CLASS RIP-RAP (DIM. PER PLAN) 28 TONS
- ⑰ CONSTRUCT CONCRETE BULKHEAD PER DETAIL ON SHEET 5 1 EA
- ⑱ CONSTRUCT MODIFIED 48" DIA. C.S.P. INLET PER DETAIL ON SHEET 3 1 EA
- ⑳ REMOVE PORTION OF EX. CHAIN-LINK FENCE AND REPLACE W/ A 6' GATE 2 EA

QUANTITIES

BENCH MARK

CITY OF RIVERSIDE BENCH MARK GPS-67  
1-1/4" BRASS CAP IN A WELL MONUMENT, 5" DEEP IN THE CENTER OF BARTON STREET, 230 FEET SOUTHERLY OF THE INTERSECTION OF BARTON AND VAN BUREN BLVD.  
ELEVATION: 1757.219



CITY BUSINESS TAX CERTIFICATE NO. 005751 EXP. 12-31-04

ALBERT A. WEBB  
A S ASSOCIATES  
ENGINEERING CONSULTANTS  
CIVIL ENGINEERS  
3788 MCCRAY ST.  
RIVERSIDE CA. 92506  
(909) 686-1070

APPROVED BY: [Signature] DATE: 7-29-04  
R.C.E. NO. 049405 EXP. DATE 9-30-04

W.O. 03-0425 FOR: CENTEX HOMES F.B.

DESIGNED BY: S.L.	CHECKED BY: L.M. PLN CHK REF
APPROVED BY: [Signature]	DATE: 7-29-04
MARK	REVISIONS
Δ	ADDED SHEETS 2A, 4A, 5A TO RIZ 9-9-05
	SUPPERSEDE SHEETS 2, 4 & 5
APPR. DATE	

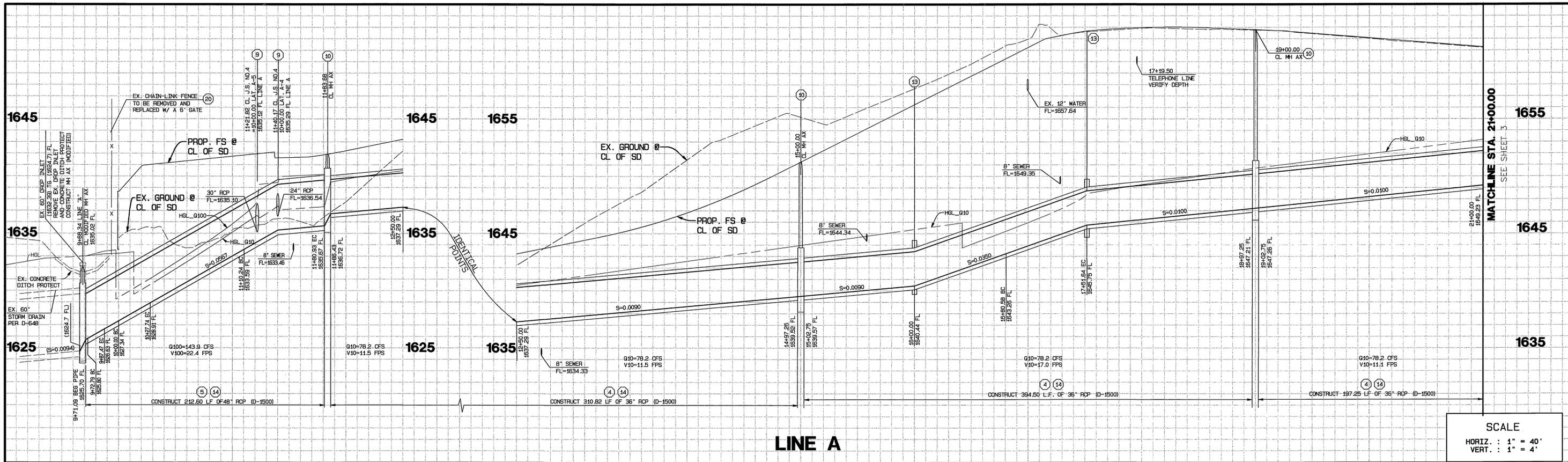
CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT	
APPROVED BY	BY DATE
PRINCIPAL ENGINEER	[Signature] 9/2/04
PARK DEPARTMENT	
TRAFFIC DIVISION	
STREET SERVICES	
DATE	9/2/04

STORM DRAIN PLAN & PROFILE	
TRACT NO. 31237	
LINE A & LINE B	
SCALE: AS SHOWN	

ACCOUNT NO.	DRAWING NUMBER
	D-755
SHEET	1 OF 5
	PW04-0137

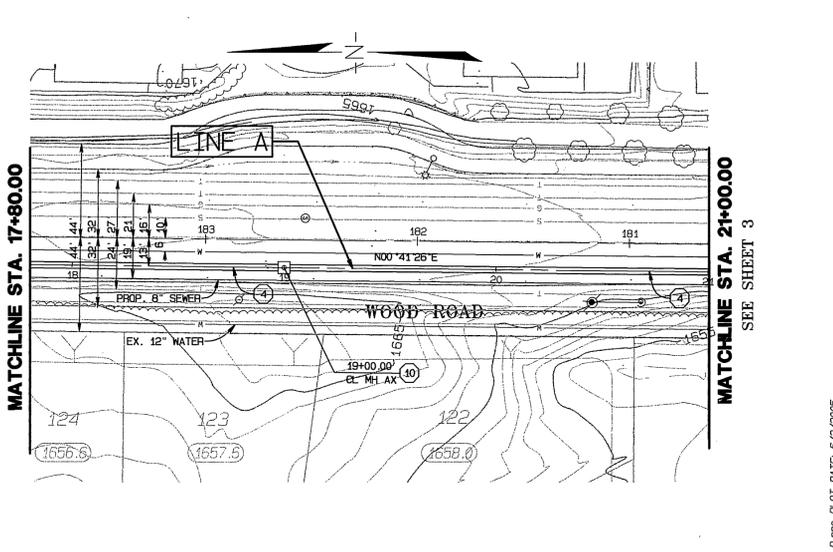
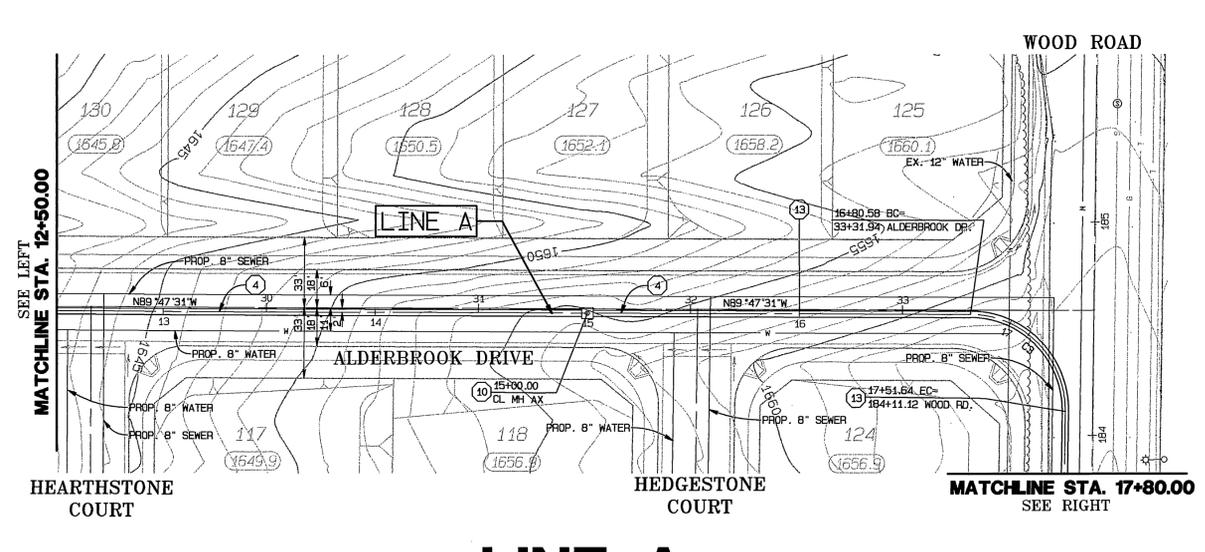
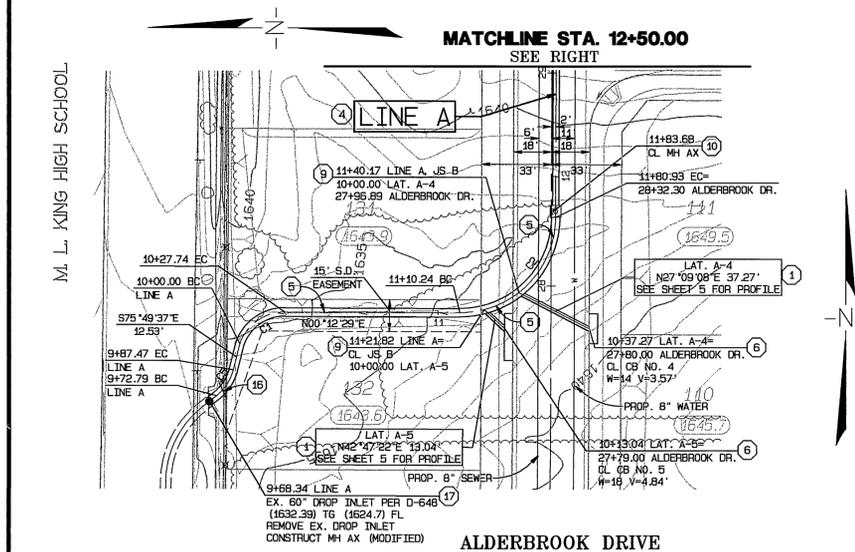
UNDERGROUND SERVICE ALERT  
CALL: TOLL FREE 1-800-227-2600  
TWO WORKING DAYS BEFORE YOU DIG

REVIEW BY:  
WESTERN MUNICIPAL WATER DISTRICT  
FOR NON-INTERFERENCE COMPLIANCE  
SHEET 1 THROUGH 5  
[Signature]  
CIVIL ENGINEER ROE 46232  
DATE: 8/24/04



SCALE  
 HORIZ. : 1" = 40'  
 VERT. : 1" = 4'

10 11 12 13 14 15 16 17 18 19 20 21



**NOTE:**  
 CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION

LINE A CURVE DATA

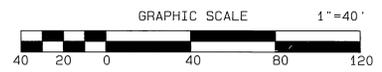
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C1	22.50'	70°38'43"	27.74'	15.94'
C2	45.00'	90°00'00"	70.69'	45.00'
C3	45.00'	90°28'57"	71.06'	45.38'
C4	22.50'	37°24'09"	14.59'	7.62'

**NOTE:**  
 THE CONCRETE COATING ON THE INSIDE OF ALL REINFORCED CONCRETE PIPES MUST BE INCREASED TO PROVIDE A MINIMUM OF 1-1/2" OVER THE REINFORCING WHEN THE DESIGN VELOCITIES EXCEED 20 FEET PER SECOND. THE CONCRETE DESIGN STRENGTH IN THESE REACHES SHALL BE Fc=5,000 PSI FOR VELOCITIES EXCEEDING 20 FEET PER SECOND AND Fc=6,000 PSI FOR VELOCITIES EXCEEDING 30 FPS.

- CONSTRUCTION NOTES**
- 1) CONSTRUCT 18" RCP (D-2000)
  - 4) CONSTRUCT 36" RCP (D-1500)
  - 5) CONSTRUCT 48" RCP (D-1500)
  - 6) CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. DWG. NO. 405
  - 9) CONSTRUCT JUNCTION STRUCTURE NO. 4 PER CITY OF RIVERSIDE STD. DWG. NO. 423
  - 10) CONSTRUCT MANHOLE AX PER CITY OF RIVERSIDE STD. DWG. NO. 430
  - 13) CONSTRUCT CONCRETE COLLAR PER CITY OF RIVERSIDE STD. DWG. NO. 424
  - 14) TRENCH BACKFILL PER CITY OF RIV. STD. 453 & PIPE BEDDING PER CITY STD. 452
  - 16) REMOVE PORTION OF EX. CHAIN-LINK FENCE AND REPLACE W/ A 6" GATE
  - 17) CONSTRUCT MANHOLE AX (MODIFIED) PER CITY OF RIVERSIDE STD. DWG. NO. 430 OMIT MH FRAME AND COVER, USE REMOVABLE GRATE PER DETAIL ON SHEET 4A

**UNDERGROUND SERVICE ALERT**  
 CALL: TOLL FREE  
 1-800-227-2600  
 TWO WORKING DAYS BEFORE YOU DIG

**BENCH MARK**  
 CITY OF RIVERSIDE BENCH MARK GPS-67  
 1-1/4" BRASS CAP IN A WELL MONUMENT, 5" DEEP IN THE CENTER OF BARTON STREET, 230 FEET SOUTHERLY OF THE INTERSECTION OF BARTON AND VAN BUREN BLVD.  
 ELEVATION: 1757.219



CITY BUSINESS TAX CERTIFICATE NO. 005751 EXP. 12-31-05

**ALBERT A. WEBB ASSOCIATES**  
 CIVIL ENGINEERS  
 3788 MCCRAY ST.  
 RIVERSIDE CA. 92506  
 (909) 686-1070

APPROVED BY: [Signature] DATE: 8-24-05  
 R.C.E. NO. C49405 EXP. DATE 9-30-06

MARK	REVISIONS	APPR. DATE

CITY OF RIVERSIDE, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT

APPROVED BY: [Signature] DATE: 9/12/05  
 PRINCIPAL ENGINEER  
 PARK DEPARTMENT  
 TRAFFIC DIVISION  
 STREET SERVICES

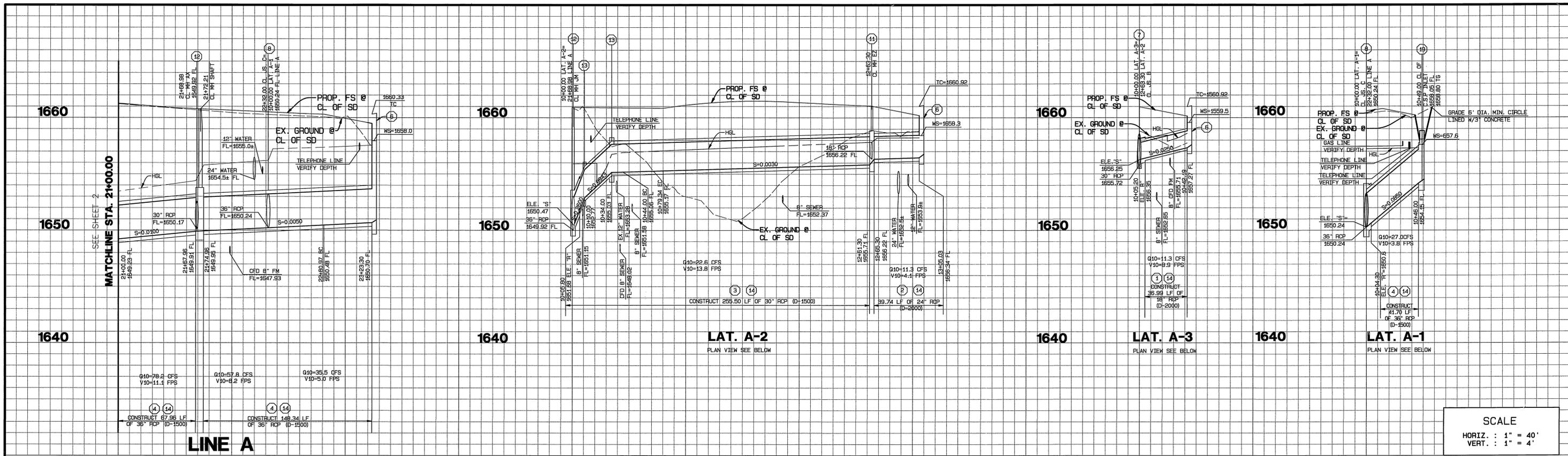
**STORM DRAIN PLAN & PROFILE**

TRACT NO. 31237  
 LINE A

SCALE: HORIZ.: 1"=40' VERT.: 1"=4'

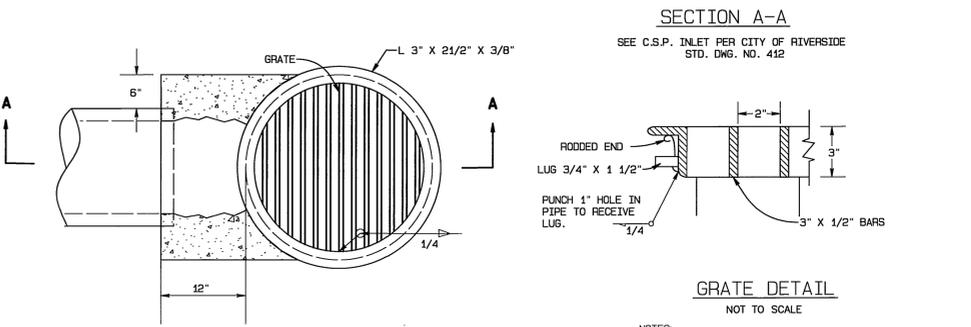
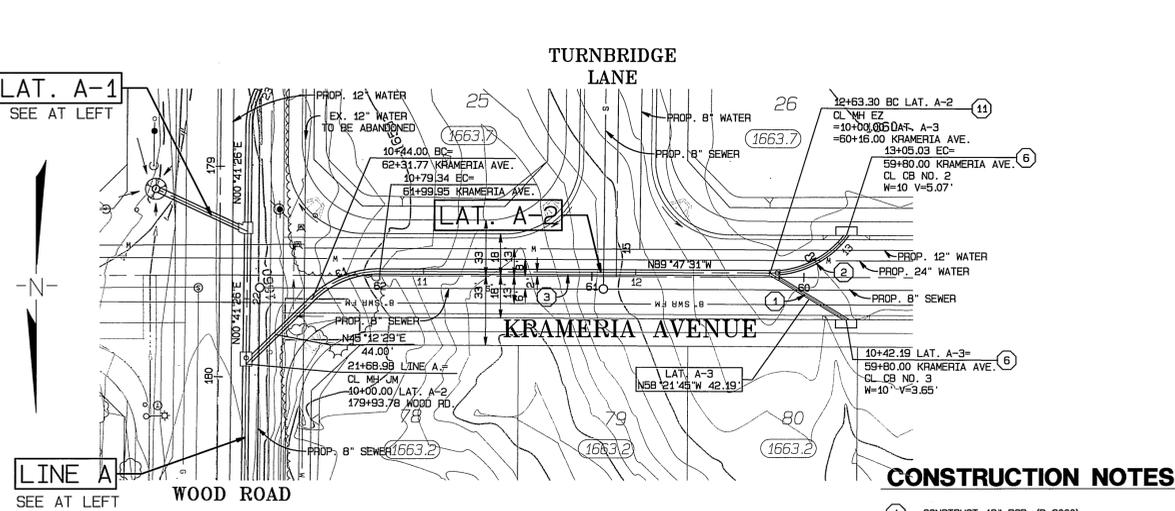
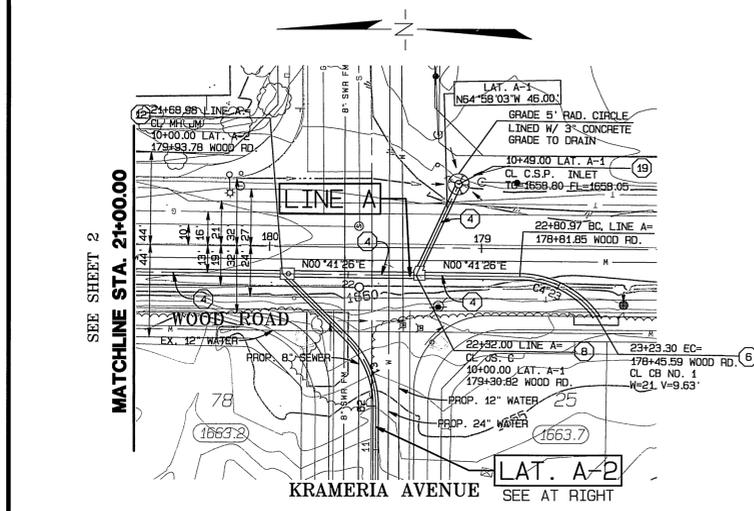
ACCOUNT NO.  
 DRAWING NUMBER  
**D-755**  
 SHEET **2A** OF **5**  
 PW04-0137

FILE: G:\2003\03-0425\03-0425 REVISED S.D. PLOT DATE: 6/2/2005



**SCALE**  
 HORIZ. : 1" = 40'  
 VERT. : 1" = 4'

21 22 23 10 11 12 13 10 11 10 11



**CONSTRUCTION NOTES**

- 1 CONSTRUCT 18" RCP (D-2000)
- 2 CONSTRUCT 24" RCP (D-2000)
- 3 CONSTRUCT 30" RCP (D-1500)
- 4 CONSTRUCT 36" RCP (D-1500)
- 5 CONSTRUCT CATCH BASIN PER CITY OF RIVERSIDE STD. DWG. NO. 405
- 6 CONSTRUCT JUNCTION STRUCTURE C PER CITY OF RIVERSIDE STD. DWG. NO. 422
- 7 CONSTRUCT MANHOLE EZ PER CITY OF RIVERSIDE STD. DWG. NO. 431
- 8 CONSTRUCT MANHOLE JM PER CITY OF RIVERSIDE STD. DWG. NO. 432
- 9 CONSTRUCT CONCRETE COLLAR PER CITY OF RIVERSIDE STD. DWG. NO. 424
- 10 TRENCH BACKFILL PER CITY OF RIV. STD. 453 & PIPE BEDDING PER CITY STD. 452
- 11 CONSTRUCT MODIFIED 48" DIA C.S.P. INLET PER DETAIL ON SHEET 3

**NOTE:**  
 CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION

**LINE A**

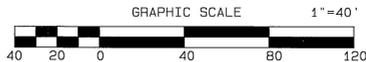
NO	RADIUS	DELTA	LENGTH	TANGENT
C1	45.00'	53°53'29"	42.33'	22.87'
C2	45.00'	53°07'48"	41.73'	22.50'

**LAT. A-2**

NO	RADIUS	DELTA	LENGTH	TANGENT
C1	45.00'	45°00'00"	35.34'	19.64'
C2	45.00'	53°07'48"	41.73'	22.50'

**UNDERGROUND SERVICE ALERT**  
 CALL: TOLL FREE 1-800-227-2600  
 TWO WORKING DAYS BEFORE YOU DIG

**BENCH MARK**  
 CITY OF RIVERSIDE BENCH MARK GRS-67  
 1-1/4" BRASS CAP IN A WELL MONUMENT, 5" DEEP IN THE CENTER OF BARTON STREET, 230 FEET SOUTHERLY OF THE INTERSECTION OF BARTON AND VAN BUREN BLVD.  
 ELEVATION: 1757.219



**ALBERT A. WEBB ASSOCIATES**  
 CIVIL ENGINEERS  
 3788 McCRA Y ST.  
 RIVERSIDE CA. 92506  
 (909) 686-1070  
 APPROVED BY: [Signature] DATE: 7-29-04  
 R.C.E. NO. C49405 EXP. DATE 9-30-04

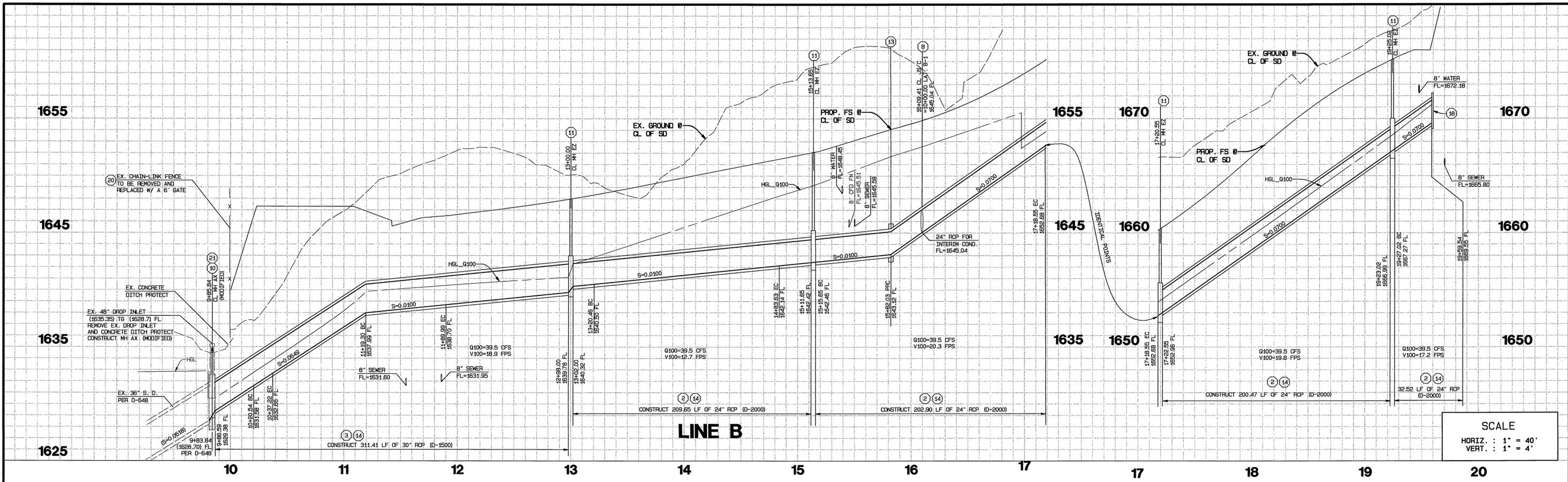
MARK	REVISIONS	APPR.	DATE

**CITY OF RIVERSIDE, CALIFORNIA PUBLIC WORKS DEPARTMENT**  
 APPROVED BY: [Signature] DATE: 7/29/04  
 PRINCIPAL ENGINEER  
 PARK DEPARTMENT  
 TRAFFIC DIVISION  
 STREET SERVICES

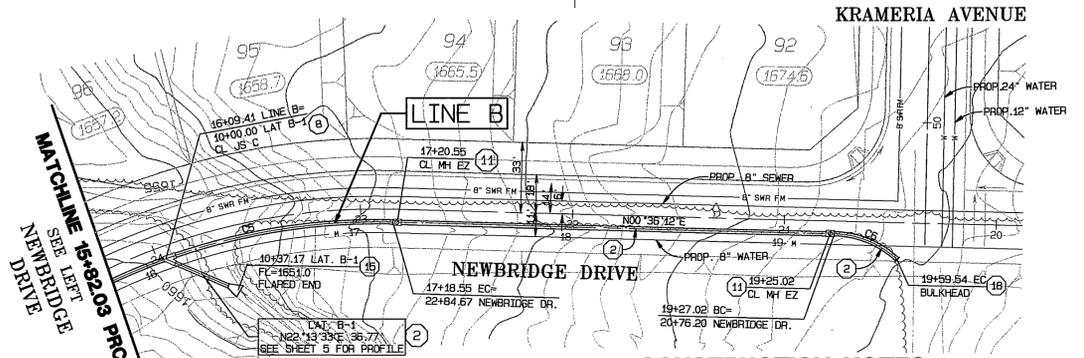
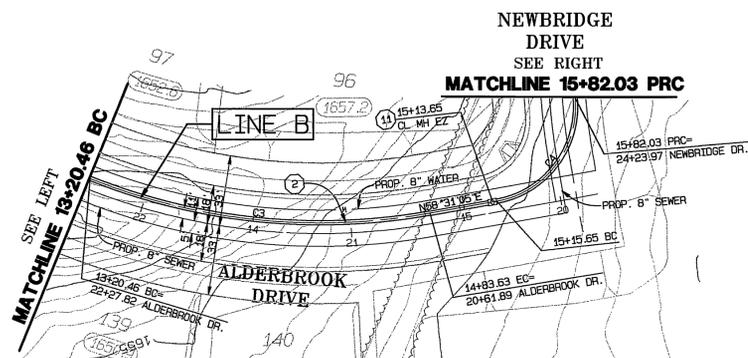
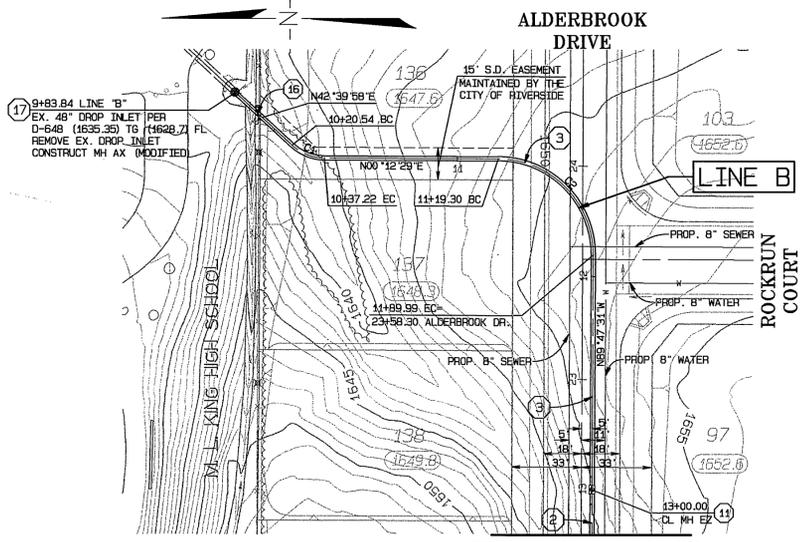
**STORM DRAIN PLAN & PROFILE**  
 TRACT NO. 31237  
 LINE A, LAT. A-1, A-2, A-3  
 SCALE: HORIZ.: 1"=40' VERT.: 1"=4'

ACCOUNT NO.  
 DRAWING NUMBER  
**D-755**  
 SHEET 3 OF 5  
 PW04-0137

INDEXED 10-12-04



SCALE  
 HORIZ. : 1" = 40'  
 VERT. : 1" = 4'

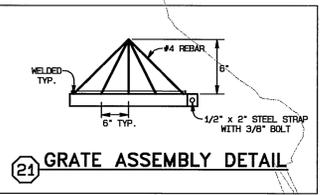


# LINE B

- CONSTRUCTION NOTES**
- (2) CONSTRUCT 24" RCP (D-2000)
  - (8) CONSTRUCT JUNCTION STRUCTURE C PER CITY OF RIVERSIDE STD. DWG. NO. 422
  - (11) CONSTRUCT MANHOLE EZ PER CITY OF RIVERSIDE STD. DWG. NO. 431
  - (13) CONSTRUCT CONCRETE COLLAR PER CITY OF RIVERSIDE STD. DWG. NO. 424
  - (14) TRENCH BACKFILL PER CITY OF RIVERSIDE STD. DWG. NO. 453
  - (15) CONSTRUCT METAL FLARED END SECTION PER DETAIL ON SHEET 1
  - (16) REMOVE EX. CHAIN-LINK FENCE AND REPLACE W/ A 6' GATE
  - (17) CONSTRUCT MANHOLE AX (MODIFIED) PER CITY OF RIVERSIDE STD. DWG. NO. 430
  - (18) OMIT MH FRAME AND COVER, USE REMOVABLE GRATE PER DETAIL ON SHEET 4A
  - (19) CONSTRUCT CONCRETE BULKHEAD PER DETAIL ON SHEET 5

**NOTE:**  
 CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION

# LINE B



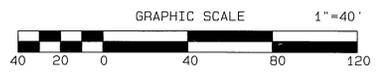
# LINE B

LINE B CURVE DATA

NO	RADIUS	DELTA	LENGTH	TANGENT
C1	22.50'	42°27'29"	15.57'	8.74'
C2	45.00'	90°00'00"	70.69'	45.00'
C3	295.00'	31°41'24"	163.15'	83.73'
C4	45.00'	84°31'14"	66.38'	40.88'
C5	294.00'	26°36'21"	136.52'	69.51'
C6	45.00'	41°24'35"	32.52'	17.01'

**UNDERGROUND SERVICE ALERT**  
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CITY BUSINESS TAX CERTIFICATE NO. 005751 EXP. 12-31-05

**ALBERT A. WEBB**  
 CIVIL ENGINEERS  
 3788 McCRAE ST.  
 RIVERSIDE CA. 92506  
 (909) 686-1070

APPROVED BY: *[Signature]* DATE: 8-24-05  
 R.C.E. NO. 93405 EXP. DATE: 9-30-06

W.D. 03-0425 FOR: CENTEX HOMES F.B. DESIGNED BY: S.L. CHECKED BY: L.M. PLN CHK REF

MARK	REVISIONS	APPR.	DATE

CITY OF RIVERSIDE, CALIFORNIA  
 PUBLIC WORKS DEPARTMENT

APPROVED BY: *[Signature]* DATE: 9/14/05  
 CITY ENGINEER

PRINCIPAL ENGINEER: *[Signature]*  
 PARK DEPARTMENT  
 TRAFFIC DIVISION  
 STREET SERVICES

**STORM DRAIN PLAN & PROFILE**

TRACT NO. 31237  
 LINE B

SCALE: HORIZ.: 1"=40' VERT.: 1"=4'

ACCOUNT NO.  
 DRAWING NUMBER  
**D-755**  
 SHEET **4A** OF **5**  
 PWO4-0137

FILE: G:\R2003\03-0425\03-0425 REVISED S.D.PWP PLOT DATE: 6/2/2005

